IN THE SPECIFICATION:

Please amend the paragraph starting at page 1, line 19, and ending at line 23, as follows.

--Many diffractive optical elements and optical systems having such elements have been proposed recently. Examples of such diffractive optical elements are a Kinoform, a binary optics, a Fresnel zone plate, and a hologram.--

Please amend the paragraphs starting at page 2, line 4, and ending line 24, as follows.

--It is known that a diffractive optical element can be formed with a sectional shape of saw-tooth shape such as a blazed shape or Kinoform shape, by which a diffraction efficiency of 100% can be attained with respect to the design wavelength. Practically, however, it is very difficult to produce a complete blazed shape. For this reason, a diffractive optical element called a "binary optics"element is used, wherein a blazed shape or Kinoform shape is approximated with use of a step-like sectional shape.

Generally, a binary optics element can be produced on the basis of a lithographic process, and a very fine pitch can be achieved relatively easily.

Figure 8 shows an example of a binary optics element, wherein denoted at 101 is a diffractive optical element. Figure 9 shows a sectional shape of the diffractive optical element 101, along a line 102 in Figure 8. In the case of a binary optics element with eight levels such as shown in Figure 9, a diffraction efficiency not less than 95% can be kept for first-

order diffraction light.--

Please amend the paragraph starting at page 3, line 9, and ending at line 20, as follows.

--When such diffractive optical element is incorporated into a barrel of a projection optical system, a ring-like holding member (hereinafter, cell) having a thickness larger than the diffractive optical element may be bonded to a peripheral edge portion of the diffractive optical element ~~into~~ to form an integral structure, to thereby assure a required strength~~, and the~~. The diffractive optical element may be held together with the cell by the barrel of the projection optical system. The positioning of the cell may be accomplished on the basis of the outside diameter of the cell.--

Please amend the paragraphs starting at page 4, line 13, and ending at page 6, line 13, as follows.

--In accordance with an aspect of the present invention, there is provided a diffractive optical element having a design wavelength λ, comprising: a diffractive surface for diffracting predetermined light corresponding to the design wavelength; and a mark shaped so that, with regard to the predetermined light, a phase difference corresponding to a multiple, by an integer, of the design wavelength λ is produced between (i) a light ray, of the predetermined light, as transmitted through or reflected by the mark and (ii) a light ray, of the predetermined light, as transmitted through or reflected by a portion adjacent to the mark~~, and that, with~~. With regard to second light of a second wavelength λ' different from

the design wavelength λ, no phase difference corresponding to a multiple, by an integer, of the second wavelength λ' is produced between (a) a light ray, of the second light, as transmitted through or reflected by the mark and (b) a light ray, of the second light, as transmitted through or reflected by a portion adjacent to the mark.

The mark may be placed at or adjacent a center of the diffractive surface and may be defined by a recess formed on the diffractive surface~~, and the~~. The recess may be formed with a depth effective to assure that a phase difference corresponding to a multiple, by an integer, of the design wavelength λ is produced between (i) a light ray, of the predetermined light, as transmitted through or reflected by the mark and (ii) a light ray, of the predetermined light, as transmitted through or reflected by a portion adjacent to the mark~~, and that~~. In addition, no phase difference corresponding to a multiple, by an integer, of the second wavelength λ' is produced between (a) a light ray, of the second light, as transmitted through or reflected by the mark and (b) a light ray, of the second light, as transmitted through or reflected by a portion adjacent to the mark.

The mark may be placed at or adjacent a center of the diffractive surface and may be defined by a protrusion formed on the diffractive surface~~, and the~~. The protrusion may be formed with a height effective to assure that a phase difference corresponding to a multiple, by an integer, of the design wavelength λ is produced between (i) a light ray, of the predetermined light, as transmitted through or reflected by the mark and (ii) a light ray, of the predetermined light, as transmitted through or reflected by a portion adjacent to the mark~~, and that~~. Also, no phase difference corresponding to a multiple, by an integer, of the

second wavelength λ' is produced between (a) a light ray, of the second light, as transmitted through or reflected by the mark and (b) a light ray, of the second light, as transmitted through or reflected by a portion adjacent to the mark.--

Please amend the paragraph starting at page 6, line 18, and ending at line 20, as follows.

--The diffractive surface may comprise a binary optics element, and the diffractive surface and the mark may be formed in accordance with a lithographic process.--

Please amend the paragraph starting at page 9, line 11, and ending at line 14, as follows.

--In an optical element according to a fourth preferred ~~from~~ form of the present invention, the optical element has a mark which is transparent with respect to a wavelength λ to be used with the optical element.--

Please amend the paragraph starting at page 9, line 20, and ending at line 23, as follows.

--In an optical element according to a sixth preferred ~~from~~ form of the present invention, the optical element has an alignment mark formed in a region through which light is to pass.--

Please amend the paragraph starting at page 12, line 20, and ending at line 22, as follows.

--~~Figure 4 is a~~ Figures 4A and 4B are schematic ~~view~~ views for explaining an example wherein a cell is bonded to a diffractive optical element according to the present invention.--

Please amend the paragraph starting at page 13, line 23, and ending at line 26, as follows.

--In this embodiment, the diffractive optical element 1 is illustrated as being a transmission type. However, the present invention is applicable to a reflection-type optical element.--

Please amend the paragraphs starting at page 17, line 27, and ending at page 18, line 22, as follows.

--~~Figure 4 is an illustration~~ Figures 4A and 4B are illustrations for explaining registration between a center of an optical element having an alignment mark and a center of a cell therefor, in accordance with the present invention. ~~Figure 4 is a schematic illustration~~ Figures 4A and 4B are schematic illustrations of an example wherein a cell 51 is bonded to a diffractive optical element 1.

In the example of ~~Figure 4~~ Figures 4A and 4B, the cell 51 comprises a holding member of a ring-like shape, having a thickness larger than that of the diffractive optical element 1. Denoted at 52 is a fixing ring for bonding the cell 51 and the diffractive

optical element 1 to each other. Denoted at 2 is an alignment mark which is provided at a center of the diffractive optical element 1.

In ~~Figure 4~~ Figures 4A and 4B, the center of the cell 51 and the center of the diffractive optical element 1 are just registered with each other. Once the cell and the optical element are bonded into this state, they can be incorporated together into a barrel for an optical system. Referring to Figure 5, the process for bonding the cell and the optical element into such state, will be explained.--